

Notice of Allowability

Application No.

10/035,754

Examiner

Alina N. Boutah

Applicant(s)

SARKAR ET AL.

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/5/06.
2. ☒ The allowed claim(s) is/are 1-19 and 27-33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Samuel A. Kassatly on September 21, 2006.

The application has been amended as follows:

In the specification, page 8, please replace paragraph [0028], with the following:

[0028] A networked storage system 10 of the present invention is illustrated in FIG. 1. The system 10 generally includes a plurality of client systems 100A-100Z, a network 102, and a target backup system 104. The client systems 100A-100Z are communicatively connected to target system 104 via the network 102. The client systems 100A-100Z have their own private data storage on private disk drives. These private data storage are backed up to the target system 104 by streaming the data over the network 102. The data that is backed up at the target system 104 can be restored on demand to each of the client systems 100A-100Z over the network 102. Many types of data may be stored at the target system 104, such as database files, media files, personal folders, and executable files. The system 10 includes a plurality of executable instruction codes stored on a computer-readable medium.

Claim 1 has been amended as follows:

1. A method of improving backup performance of block storage over a network with asymmetric traffic, comprising:

a client concurrently sending a write command and associated data to a server;

the server executing the write command, and suppressing a SCSI Ready to Transfer (RTT) message, if any SCSI RTT message is scheduled to be issued by the server;

Art Unit: 2143

the server combining a protocol acknowledgment message with the delayed SCSI RTT message into an acknowledgment message, and transmitting the combined acknowledgment message to the client; and

upon receipt of the combined acknowledgment message, the client recognizing a successful execution of the write command by the server and de-allocating a buffer that contains the associated data.

Claim 27 has been amended as follows:

27. A computer program product having a plurality of executable instruction codes stored on a computer-readable medium, for improving backup performance of block storage over a network with asymmetric traffic, the computer program product comprising:

a first set of instruction codes concurrently sending a write command and associated data to a server;

a second set of instruction codes residing on the server, for executing the write command, and delaying transmission of a SCSI Ready to Transfer (RTT) message, if any SCSI RTT message is scheduled to be issued by the server, to within a predetermined timeout constraint, in order to reduce the number of RTT messages from the server to the client;

a third set of instruction codes residing on the server, for combining a protocol acknowledgment message with the delayed SCSI RTT message, into an acknowledgment message, and transmitting the combined acknowledgment message to a client; and

Art Unit: 2143

upon receipt of the combined acknowledgment message, a fourth set of instruction codes residing on the client, for recognizing a successful execution of the write command by the server and de-allocating a buffer that contains the associated data.

The Examiner would like to note that in the Final Office Action, dated August 11, 2005, claim 28 was objected to because it depended on cancelled claim 21. It was assumed that this was a typo. Claim 28 and its intervening claims were examined as being dependent on claim 27. Applicant did not respond to this error and did not file any subsequent amendment to the claim. In view of this amendment, claim 28 hereby depends on claim 27.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: in combination with every limitation disclosed in the independent claims, the prior art of record fails to teach the server delaying transmission of a SCSI RTT message to within a predetermined timeout constraint, and intentionally delaying the SCSI RTT message.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2143


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N. Boutah whose telephone number is 571-272-3908. The examiner can normally be reached on Monday-Friday (9:00 am - 5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANB
ANB


DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100